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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,932	08/27/2001	Gary Russell	PHOT02	4043
26875 7590 04/17/2008 WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202				
EXAMINER THOMPSON, JAMES A				
ART UNIT		PAPER NUMBER		
2625				
MAIL DATE		DELIVERY MODE		
04/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

09/939,932

## Applicant(s)

RUSSELL, GARY

## Examiner

JAMES A. THOMPSON

## Art Unit

2625

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-27, 30, 33-37, 39-48, 50-57 and 59-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 7-25, 33-37, 39-47, 50-54, 60, 62-67, 71 and 72 is/are allowed.
- 6) ☒ Claim(s) 26, 27, 30, 48, 55-57, 59, 61, 68-70 and 73-75 is/are rejected.
- 7) ☒ Claim(s) 26 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-543)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see pages 19-20, filed 18 January 2008, with respect to the rejections of the claims over the prior art have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of the requirements of 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 101. Claims 55-57, 59, 69, 70, 73 and 74 are rejected under 35 U.S.C. § 112, second paragraph due to a lack of antecedent basis present in the recited claim language. Further, claims 27, 30, 48, 61, 68-70 and 75 are rejected under 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 101 since, due to the specifically recited claim language, it is not clear what exactly is intended to be covered by the claims and some reasonable interpretations of the claims are non-statutory. Finally, claim 26 is objected to based on a formatting error.

### *Claim Objections*

2. Claim 26 is objected to because of the following informalities: The fold equation is improperly formatted. The fold equation should read  $fold(x) = \|x - 1/3\| - 1/3 - 1/3\| * 3$ . Appropriate correction is required.

3. Claim 30 is objected to because of the following informalities: In line 2, there is recited "a processor configured to place a first generated". There is no noun after the adjective "first". Examiner assumes Applicant means "a first dot generated". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 recites the limitation "said program" in line 7. There is insufficient antecedent basis for this limitation in the claim.

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6. Claims 55-57 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 55-57 and 59 each recite the limitation "The apparatus of claim 67" in line 1 of the respective claim. There is insufficient antecedent basis for this limitation in the claim.

7. Claims 69-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 69-70 each recite the limitation "The apparatus of claim 68" in line 1 of the respective claim. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 73 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 73 recites the limitation "The apparatus of claim 14" in line 1. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 74 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 74 recites the limitation "The apparatus of claim 20" in line 1. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 26 recites a processor and a computer readable medium as separate elements, but does not recite what they are separate elements of. Thus, it is not clear what is being claimed. Is it a processor? Is it a computer-readable medium storing data (which would be non-statutory)? Is it some overall system which comprises a processor and a computer readable medium? If so, how does the processor perform operations without a computer-readable medium encoded with a computer-executable program? It is not clear from the language what claim 26 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

11. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 is directed to a “program product” but comprises a processor and a computer-readable medium bearing a program. Is claim 27 meant to be directed to a computer-readable medium encoded with a computer-executable program, or is claim 27 meant to be directed to some sort of apparatus comprising a processor? It is not clear from the language what claim 27 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

12. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 30 is directed to a “program product” but comprises a processor and a computer-readable medium bearing a program. Is claim 30 meant to be directed to a computer-readable medium encoded with a computer-executable program, or is claim 30 meant to be directed to some sort of apparatus comprising a processor? It is not clear from the language what claim 30 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

13. Claims 48 and 61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 48 recites a computer-executable program and a computer-readable medium as separate elements of a program product. So, it is not clear what Applicant intends to cover by the language of claim 48. Is claim 48 merely a program product (which would be non-statutory)? Is claim 48 meant to be computer-executable program (which by itself would be non-statutory)? Is claim 48 meant to be a computer-readable medium encoded with a computer-executable program (which would be statutory)? It is not clear from the language what claim 48 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 61 is also rejected due to its dependency from claim 48.

14. Claims 68-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 68 recites a processor and a computer readable medium as separate elements, but does not recite what they are separate elements of. Thus, it is not clear what is being claimed. Is it a processor? Is it a computer-readable medium storing data (which would be non-statutory)? Is it some overall system which

comprises a processor and a computer readable medium? If so, how does the processor perform operations without a computer-readable medium encoded with a computer-executable program? It is not clear from the language what claim 68 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 69-70 are also rejected due to their respective dependencies from claim 68.

15. Claim 75 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 75 recites a computer-executable program and a computer-readable medium as separate elements of a program product. So, it is not clear what Applicant intends to cover by the language of claim 75. Is claim 75 merely a program product (which would be non-statutory)? Is claim 75 meant to be program (which by itself would be non-statutory)? Is claim 75 meant to be a computer-readable medium encoded with a program? It is not clear from the language what claim 75 is meant to cover, so Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

#### ***Claim Rejections - 35 USC § 101***

16. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

17. Claim 26 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As discussed above, claim 26 could be interpreted as a computer-readable medium storing data, namely a halftone screen. A halftone screen is simply an array of data. Thus, the computer-readable medium simply stores non-functional descriptive data, which is non-statutory.

18. Claim 27 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 27 recites a program product. As discussed above, claim 27 could be interpreted to be a computer-readable medium bearing a program. A program, as opposed to a computer-executable program encoded on a computer-readable medium, could simply be a listing of steps or a text file containing code written in a high level program language. Thus, claim 27 could simply be non-functional descriptive data stored on a computer-readable medium, and is thus non-statutory.

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19. Claim 30 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 30 recites a program product. As discussed above, claim 30 could be interpreted to be a computer-readable medium bearing a program. A program, as opposed to a computer-executable program encoded on a computer-readable medium, could simply be a listing of steps or a text file containing code written in a high level program language. Thus, claim 30 could simply be non-functional descriptive data stored on a computer-readable medium, and is thus non-statutory.

20. Claims 48 and 61 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As discussed above, claim 48 can be interpreted to be merely a program product, which is non-statutory since a program product could be a program listing *per se*, or a computer-executable program, which by itself is non-statutory since it would not necessarily be encoded on a computer-readable medium [MPEP § 2106.01]. Claim 61 depends from claim 48, and is therefore also non-statutory.

21. Claim 68 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As discussed above, claim 68 could be interpreted as a computer-readable medium storing data, namely a threshold array. A threshold array is simply an array of data. Thus, the computer-readable medium simply stores non-functional descriptive data, which is non-statutory. Claims 69 and 70 depend from claim 68, and are therefore also non-statutory.

22. Claim 75 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As discussed above, claim 75 can be interpreted to be merely a program product, which is non-statutory since a program product could be a program listing *per se*, or a program, which by itself is non-statutory since it would not necessarily be computer-executable and encoded on a computer-readable medium [MPEP § 2106.01].

***Allowable Subject Matter***

23. Claims 1-5, 7-25, 33-37, 39-47, 50-54, 60, 62-67, and 71-72 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 1 recites a halftoning method including determining an overlap of two dots in the same halftone screen, and overlapping the two dots such that in substantially all halftone cells the narrowest width of any ink-bearing portion of each halftone cell is no greater than approximately 30% of the width of the halftone cell. This provides overlapping dot growth patterns, such as shown in figures 3 and 4A-4H of the specification. "Substantially all halftone cells" is interpreted to mean all but the small percentage of saturated or near-saturated gray scale values which are not physically capable of having a halftone cell in which the narrowest width of any ink-bearing portion is no greater than approximately 30% of the width of the halftone cell. This arrangement of overlapping halftone dots has the advantage of distributing the ink during printing so as to effectively and accurately reproduce the desired gray scale values. By arranging the ink distribution in the recited manner, during actual physical printing on a paper medium, the ink does not overlap as much as in more common types of halftoning resulting in improved tonal reproduction characteristics. Also, during actual physical printing on a non-porous medium, there is more even distribution of the ink, especially in darker tones, which results in better tonal reproduction characteristics and a sharper printed image.

The closest prior art discovered is Sugizaki (USPN 6,975,431 B1). Sugizaki applies three basic patterns to produce a halftone cell (see, *e.g.*, figures 8-9 of Sugizaki), but these patterns are not overlapped in such a way that the narrowest width of any ink-bearing portion is no greater than approximately 30% of the width of the halftone cell, as specifically done by the method of claim 1. Examiner has found no prior art which fully teaches the method of claim 1. Accordingly, claim 1 is deemed allowable over the prior art. Claims 2-5, 7, 42, 65 and 66 are deemed allowable due to their respective dependencies from claim 1 and since they are not otherwise rejected or objected to.

Claim 8 recites a method which is deemed allowable for substantially the same reasons as claim 1. Claims 9-13 and 43 are deemed allowable due to their respective dependencies from claim 8 and since they are not otherwise rejected or objected to.

Claim 14 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same properties as that produced by the method of claim 1. Thus, claim 14 is deemed allowable for substantially the same reasons as claim 1. Claims 15-19 are deemed



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allowable due to their respective dependencies from claim 14 and since they are not otherwise rejected or objected to. Claim 73, while also depending from claim 14, is rejected under 35 U.S.C. § 112, second paragraph.

Claim 20 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 20 is deemed allowable for substantially the same reasons as claim 1. Claims 21-25 are deemed allowable due to their respective dependencies from claim 20 and since they are not otherwise rejected or objected to. Claim 74, while also depending from claim 20, is rejected under 35 U.S.C. § 112, second paragraph.

Claim 33 is a method of creating a printing plate which contains and uses a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 33 is deemed allowable for substantially the same reasons as claim 1. Claims 34-37 and 50-54 are deemed allowable due to their respective dependencies from claim 33 and since they are not otherwise rejected or objected to.

Claim 45 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 45 is deemed allowable for substantially the same reasons as claim 1. Claims 71 and 72 are deemed allowable due to their respective dependencies from claim 45 and since they are not otherwise rejected or objected to.

Claim 46 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 46 is deemed allowable for substantially the same reasons as claim 1.

Claim 47 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 47 is deemed allowable for substantially the same reasons as claim 1.

Claim 60 recites a method which is deemed allowable for substantially the same reasons as claim 1. Claims 62-64 are deemed allowable due to their respective dependencies from claim 60 and since they are not otherwise rejected or objected to.

Claim 67 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 67 is deemed allowable for substantially the same reasons as claim 1. Claims 39-41 and 44 are deemed allowable due to their respective dependencies

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from claim 67 and since they are not otherwise rejected or objected to. Claims 55-57 and 59, while also depending from claim 67, are rejected under 35 U.S.C. § 112, second paragraph.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES A. THOMPSON whose telephone number is (571)272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward L. Coles/  
Supervisory Patent Examiner, Art Unit 2625

/J. A. T./  
Examiner, Art Unit 2625

13 April 2008